UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,122	09/15/2003	Juha Sarmavuori	089229.00097	9082

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EXAMINER
MALEK, LEILA

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 July 2009</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-23 and 25-36</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-23 and 25-36</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>16 April 2008</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   This office action is in response to the amendments received on 07/27/2009.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2.   Claims 4, 15, and 27, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As to claims 4, 15, and 27 Applicant fails to disclose how the correctness of the signaling block has been verified without searching in a way to enable one skilled in the art to use the same method.

3.   Claims 7, 18, and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. As to claims 7, 18, and 30 Applicant states that "the octet slip is detected before the first error bit if the number of error bits starting from the first error bit position is zero or one". However, it is not clear how the octet slip can be detected in the errorless block of bits (the bits prior to the first error bit position). The bits prior to the

first error bit have been searched by a searcher and a confirmation has already been made that they are errorless, therefore an octet slip can not exist in those bits.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4.   Claims 10, 21, and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As to claims 10, 21, and 33 language of the claims in "detecting the octet slip between the first and second error bit positions and the number of bit error is one" is vague.

5.   Claims 11, 22, and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For instance claim 11, depends on claim 9, and therefore on claims 8 and 6, however, the limitations of claim 11, contradict the limitations of claim 6. In claim 11, Applicant states "determining that the octet slip cannot be detected if the number of bit errors is more than one", however, in claim 6, Applicant states "the octet slip is detected starting from or after the first error bit if the number of bit errors in the slipped block is more than one". Same rejection applies to claims 22 and 34.

6.   Claims 23 and 25-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As to claim 23, line 15, limitation "detect assumed octet slip" is vague and indefinite, because it is not clear how the Applicant

makes the assumption that the octet slip (error) exists. The signaling block might be an

error free block (as shown in Fig. 2B, blocks 20-22), therefore the above assumption

may not be a valid assumption. In view of the 35 U.S.C. 112, second paragraph

rejection, no patentable weight has been given to this limitation.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-3, 5, 6, 8, 9, 12-14, 16, 17, 19, 20, 23-26, 28, 29, 31, 32, and 36 are

rejected under 35 U.S.C. 103(a) as being unpatentable over Ghuman et al. (hereafter,

referred as Ghuman) (US 6,081,570), in view of Weng et al. (hereafter, referred as

Weng) (US 5,631,909).

Regarding claims 1 and 12, Ghuman discloses a method for detecting octet slip

(column 14, lines 57-62, the data is received in the form of bytes (octets)) in a receiver,

the method comprising: searching for a first error bit (figure 20, block 436) to identify a

first error starting from an end of a searching block (Ghuman does not expressly

disclose choosing a search direction, however inherently there must be a direction for

searching the error bits) (see column 14, last paragraph) the searching block (e.g. each

byte has been interpreted as a searching block) comprising a set of bits; counting (see

blocks 436 and 438), with a counter, a number of bit errors starting from a first position

in a slipped block (see blocks 436 and 438), the slipped block being another set of bits

where each bit is shifted relatively to a corresponding bit of the searching block (figure 20, block 438) (Ghuman does not expressly disclose a slipped block, however, a portion of data frame containing the errors can be considered as a slipped block); and detecting slip by analyzing the error bits (figure 20, elements 440,442, 445 and figure 21A). Ghuman discloses all the subject matters claimed in claims 1 and 12, except for identifying the first error position. Weng, in the same field of endeavor, discloses a system which counts the burst errors simultaneously from both ends of the error pattern (see column 3, lines 24-33). It thus determines the positions in the pattern of a first erroneous bit, b_{first}, and a last erroneous bit, b_{last}. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Ghuman as suggested by Weng to identify the location of the errors as well as the number of them to perform error correction more accurately.

Regarding claim 23, Ghuman shows a transmitter (figure 1, element 10), a receiver (element 34), and an in-path equipment (element 14), and a slip detector (figure 20). Ghuman discloses a method for detecting octet slip (column 14, lines 57-62, the data is received in the form of bytes (octets)) in a receiver, the method comprising: searching for a first error bit (figure 20, block 436) to identify a first error starting from an end of a searching block (Ghuman does not expressly disclose choosing a search direction, however inherently there must be a direction for searching the error bits) (see column 14, last paragraph) the searching block (e.g. each byte has been interpreted as a searching block) comprising a set of bits; counting (see blocks 436 and 438), with a counter, a number of bit errors starting from a first position in a slipped block (see

blocks 436 and 438), the slipped block being another set of bits where each bit is shifted relatively to a corresponding bit of the searching block (figure 20, block 438) (Ghuman does not expressly disclose a slipped block, however, a portion of data frame containing the errors can be considered as a slipped block); and detecting slip by analyzing the error bits (figure 20, elements 440,442, 445 and figure 21A). Wherein the slip detector is configured to detect octet slip of the signal transmitted from the sender terminal through the in-path equipment to the receiver terminal (see Figs. 1 and 20). Ghuman discloses all the subject matters claimed in claim 23, except for identifying the first error position. Weng, in the same field of endeavor, discloses a system which counts the burst errors simultaneously from both ends of the error pattern (see column 3, lines 24-33). It thus determines the positions in the pattern of a first erroneous bit, b_{first}, and a last erroneous bit, b_{last}. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Ghuman as suggested by Weng to identify the location of the errors as well as the number of them to perform error correction more accurately.

As to claims 2, 13, and 25, neither Ghuman nor Weng discloses that when the searching is carried out in a direction from a first bit to a last bit, the searching block is a signaling block and the slipped block is an adjacent block, however, inherently if in Ghuman the search has been performed from a first bit to a last bit, the bits prior to the location of the first error are the correct bits (because the have already been checked) and therefore the interval from the beginning of the octet to the first error position can be considered as the signaling block (i.e. the errorless block) and the rest of the bits can be interpreted as an adjacent block (i.e. the block containing the bit errors).

As to claims 3, 14, and 26, neither Ghuman nor Weng discloses that when the searching is carried out in a direction from a last bit to a first bit, the searching block is an adjacent block and the slipped block is a signaling block. However, inherently, if in Ghuman the search has been performed from a last bit to a first bit, the interval from the end of the block to the location of the first bit error can be considered as an adjacent block (i.e. the errorless block) and the rest of the bits can be interpreted as a signaling block (i.e. the block containing the bit errors).

As to claims 5, 16, and 28, Ghuman discloses that searching and counting bit errors is performed by comparing the signaling block and the adjacent block to a sample block (i.e. the sync pattern) (see Fig. 20 block 436).

As to claims 6, 17, and 29, since the bits prior to the first error bit position are error free, therefore inherently the octet slip is detected starting from the first error bit position.

As to claims 8, 19, and 31, Ghuman inherently shows searching for a second error bit position of the searching block starting from a bit after the first error bit position because after finding an error bit, the searcher does not go back to the beginning of the block and it only continues searching through the rest of the bits (see Fig. 20, block 436).

As to claims 9, 20, and 32, Ghuman discloses searching all the bits included in the data bytes and therefore inherently teaches detecting if the bits of the slipped block starting from the second error bit position are correct (see Fig. 20, block 436).

Regarding claim 36, Ghuman shows the slip detector to be arranged into
the receiver terminal (figure 1, element 34).

8.   Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghuman
and Weng, further in view of Pierson (US 6,487,198).

While Ghuman does not disclose arranging the slip detector in an in-path
equipment, because frame slips are common in in-path equipments (see Pierson
column 17, lines 32-45), it would be obvious to one ordinarily skill in the art to
incorporate the slip detector of Ghuman into an in-path equipment in order to provide in-
path synchronization and save receiver power.

Conclusion

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to LEILA MALEK whose telephone number is (571)272-
8731. The examiner can normally be reached on 9AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone
number for the organization where this application or proceeding is assigned is 571-
273-8300.

Information regarding the status of an application may be obtained from the

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leila Malek
Examiner
Art Unit 2611

/L. M./
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Examiner, Art Unit 2611

/Mohammad H Ghayour/
Supervisory Patent Examiner, Art Unit 2611